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Case Docket No. 7362
Date: August 28, 2007

Mail Stop Appeals - Patents
COMMISSIONER OF PATENTS
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Re: Application of: Kkajander
Serial No.: 10/780,069
Filed: February 17, 2004
For: LAMINATE CONTAINING A COATED NONWOVEN MAT WITH A SMOOTH SURFACE

Art Unit: 1771
Examiner: DAVIS, Jenna

Transmitted herewith is/are the following document(s) related to the above-identified application:

[ ] Notice of Appeal

[X] Appeal Brief (14 pages)

[ ] Request for Oral Hearing

Please extend the time for filing the Notice of Appeal ____ ( ) month to _____.

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Appeal Brief	$500.00	500.00
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Kajander Art Unit: 1771

Serial No. 10/780,069 Case Docket No.7362

Filed: February 17, 2004 Examiner: Jenna Davis

For: **Laminate Containing A Coated Nowoven Mat With A Smooth Surface**

Commissioner of the Patents & Trademarks
Washington, D. C. 20231

Dear Sir:

In response to the Final Office Action mailed on April 19, 2007 and the Advisory Action mailed June 5, 2007, Applicant has appealed the final rejection of claims 24, 26-30 and 39-44, set forth in the Claims Appendix of this brief.

APPEAL BRIEF

Real Party In Interest:

The real party in interest is Johns Manville, assignee of the inventor, Kajander.

Related Appeals and Interferences

NONE

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Status of the Claims

Claims 24, 26-30 and 39-44 stand finally rejected under 35 USC 103(a). Applicant appeals from the Final Rejection of claims 24, 26-30 and 39-44 under 35 USC103 (a). Claims 1-23, 25 and 31-38 have been cancelled.

Status of Amendments

After the Final Office Action, mailed April 19, 2007, a Rule 1.116 amendment was filed. The Rule 1.116 Amendment was entered and overcame a Final Rejection under 35 USC 112, second paragraph, but the Examiner maintained the Final Rejection under 35 USC 103(a).

Summary of the Claimed Invention:

Independent claim 24 is for a laminate, page 5, lines 18-19, comprising a first layer, page 5, lines 19-23, bonded to a second layer comprising a fibrous mat, page 5, lines 18-19, containing a major portion of non-cellulosic fibers, page 4, lines 1-4, having an average fiber diameter of at least about 10 microns and up to 20 microns, page 4, lines 34-36 and page 8, lines 1-2, the fibrous mat having a coating on a surface, page 3, line 16, the coating amounting to about 8 to about 20 grams per square foot, page 10, lines 10-13, the coating having an exposed surface having a surface smoothness Ra of no greater than about 13 microns, page 3, lines 10-12, the coating comprising a filler comprising a minor amount of clay, page 3, lines 20-24 and page 12, line 25, a minor amount of polymeric binder, page 3, lines 20-21 and page 12, line 25, and a major amount of inorganic filler, page 3, lines 20-24 and page 12, line 26, at least 95 wt. percent of the particles of clay and inorganic filler having a particle size of less than 200 mesh, page 4, lines 6-9. The surface smoothness of the coated fibrous mat, having a smoothness Ra of no greater than 13 microns, is a result of the composition and weight of the coating and having been dried while the surface

was in contact with a smooth surface, page 4, line 18 through page 5, line 16. The property Ra is a measure of smoothness, see page 10,m lines 21-28.

Claim 26, and claims 27-30, 39 and 42-44 that depend from claim 26, further describe the coating as comprising about 10 to about 20 wt. percent clay, about 5 to about 15 wt. percent polymeric binder and about 65 to about 85 wt. percent filler, see original claim 26.

Grounds of Rejection to be Reviewed on Appeal:

Claims 24, 26-30 and 30-39 stand finally rejected under 35 USC 103(a) as being unpatentable over Jaffee et al (6,187,697) in view of Leclercq (20030175478).

The Examiner urges that Jaffee et al discloses nonwoven multiple layer composites made of glass fibers (col.5, line 27) of different lengths and fiber diameters, specifically of 13 micron diameter (col. 6, line 6) bound with a binder with a target of about 75 wt. percent glass fibers and 20-22 wt. percent binder.

The Examiner further states that while the amount of filler in the coating of the claimed laminates is not the same (apparently not the same as taught by Jaffee et al and/or Leclercq) it is the position of the Examiner that this difference is a result effective variable and is routinely adjusted by one versed in the art and would have been obvious to have increased or decreased to affect the surface of the laminate. The Examiner further stated that increasing the coating or filler amount would totally coat the nonwoven glass fibers so that they do not protrude out as shown in col. 2, or alternatively, increasing the amount of filler would allow the coating to stick better to fibers and also fill any voids within the nonwoven thereby making the coating smooth.

The Examiner further states that while Jaffee et al is silent with regard to the particle size of the fillers provided therein, it would have been obvious to one of ordinary skill in the art to have provided small particles of filler as taught by

Leclercq in paragraphs [0039] and [0043] to obtain a smooth final product since larger particles would protrude from the coating material. The Examiner also states that Leclercq teaches providing a coating in an amount of from 200 to 300 gms or from 18.6 to 27.9 gsf which overlaps the claimed coating weight and thus the claimed coating weight would have been obvious to produce successful products.

The Examiner takes the position that the it is reasonable to presume that the Ra of no greater than 13 microns is inherent or obvious in the multilayer mats of Jaffee et al, since compositionally similar materials at the same weight percentages are used.

As to claims 41-44, the Examiner states that Jaffee et al teach using their mats as facers for all types of boards including wood boards and boards of all types.

ARGUMENT:

Appellant respectfully disagrees with the rejections of claims 24, 26-30 and 39-44 as being unpatentable over Jaffee et al under 35 USC 103(a) in view of the disclosure of Leclercq. Therefore, reversal of this rejection is respectfully requested.

The invention is a laminate having as one layer a coated fibrous mat, the coating being of stated compositions and of a stated range of coating weights and having a surface smoothness Ra of no greater than about 13 microns. The surface smoothness of the coating is novel and is a result of the type of coating, the coating weight and, very importantly, that the coating was in contact with a smooth surface while being dried. While the method of making the coated mat on the laminate is normally not given weight, the method of drying the coating should be given weight here when considering the position of the Examiner that the surface smoothness of the claimed laminates is inherent or obvious in the mats taught by Jaffee et al, of Leclercq or Jaffee et al modified by the teachings of

Leclercq. It should also be given weight when considering the evidence presented in the Examples of the Specification. Applicant believes that the Examiner's apparent refusal to consider this evidence, or to give it proper weight, is reversible error.

Jaffee et al teach a method of coating a wet fiber web 30 on line by placing particles and/or fibers in the binder that will bind the particles and/or the fibers in the coating 40 and the fibers in the wet web 30 together to form coated mats 58. The Examiner seems to suggest that Jaffee et al is silent as to the particle size of fillers in the coatings, but Jaffee et al teach coated mats 58 in which the coating 40 contains particles that are mostly minus 40 mesh and plus 100 mesh U.S. Standard, (col. 2, lines 32-59) placed in a binder for bonding the coating particles and the fibers in the base mat together. In lines 54-57, Jaffe et al teach that preferably at least 99 wt. percent of the particles, or fibers, in the binder end up in the surface portion 40, the coating, of their mats. Based on the teaching earlier in lines 41-46, the artisan is directed away from using any substantial amount of much finer particles than taught in lines 40-41. Nowhere does Jaffee et al reasonably suggest coatings containing particles, at least 95 wt. percent of which are less than 200 mesh.

Leclercq teaches a plasterboard having a fiberglass mat on at least one surface, the fiberglass mat coated with coating compositions containing fine white materials such as calcium carbonate and clay, etc., the particle size being preferably less than 40 microns, particularly less than 20 microns. Since minus 325 mesh material has a maximum particle size of about 44 microns and 200 mesh material has a maximum particle size of about 74 microns, it cannot reasonably be urged that the teaching of Leclercq would lead one of ordinary skill to modify Jaffee et al by using fillers in the coating composition having a particle size of minus 325 mesh, or even minus 200 mesh, because Jaffee et al teaches away, col. 2, lines 39-46 and 54-57, from using fillers having at least 95 wt. percent of the particles being minus 200 or minus 325 mesh. Leclercq also suggests coating weights that only slightly overlap applicants claimed range, i.e. see paragraph [0063] for coating weights of 200-300 gms/sq. meter, about 18.59

to about 27.88 gms/sq. ft. and does not disclose the surface smoothness of the bare coated mats, see paragraphs [0178] and [0179].

The Examiner also urges that the higher percentage of filler used in the invention is obvious, in the sense of 35 USC 103, modification and provides no evidence of why one skilled in the art would believe that a higher filler content would better coat the fibers. The Examiner may be confusing the basis weight of the coating with the filler content of the coating. As shown by Examples 2, 3, 5 and 6, the higher the basis weight of the coating, when at least partially dried in contact with a smooth surface, does increase the surface smoothness, but the Examiner has provided no evidence that it was known in the art that increasing the filler content in the coating produces a smoother surface or causes it to stick better to the fibers. Actually wet clay sticks better to the fibers than the wet filler. The Examiner seems to urge that Jaffee et al in col. 5, lines 10-17 teaches this, but in those lines Jaffee et al is talking about what can happen if the particles are of an organic thermoplastic or a flowable thermoset material, and not the how much filler is in the coating. Neither kaolin clay or limestone are organic thermoplastic or flowable thermoset materials.

The Examiner urges that it is presumed that the mat or mats disclosed in this reference have the degree of surface smoothness of the claimed invention, but no proof is provided by the Examiner to support this presumption. This presumption is not correct as evidenced by applicant's Examples on pages 14-16 of applicant's Specification. Specifically Example 1 vs Example 2 and Example 7 vs Example 8, provided in the present application. The Examiner appears to be ignoring this evidence. Other examples show that different kinds of mats and different kinds of coatings, when made according to the non-elected present invention have the surface smoothness recited in the claims. Applicant believes that these comparative examples establish prima facie that the surface of the claimed laminate is substantially smoother than that of the mats reasonably taught by Jaffee and Leclercq. Applicant sees nothing in either of these references or in the present specification reasonably suggests otherwise.

The coated mats taught by Jaffee et al are dried with the coating exposed to the air and hot gases in the oven, the manner of drying used in Examples 1 and 7, and show that drying in the conventional manner and the manner used by Jaffee et al produces a relatively smooth surface, but not nearly as smooth as possessed by the mats in the laminates of the claimed invention. There is no suggestion in Jaffee et al to at least partially drying the mat and/or the coating while it is in contact a smooth surface. This step in the manufacture of the coated mats is critical to the manufacture of the coated mat of claims of Groups I and II and to the method claims of Group III.

Examples 1 and 2 of the present specification show that when the same mat is coated with the same coating composition, Example 1, coated with essentially the same coating weight (19.9 gms/sq. ft. for Example 1 and 19.3 gms/sq. ft. for Example 2, and then dried in a conventional manner with the coated surface exposed to hot air and hot gases shows that the surface is not nearly so smooth as the surface of the mat made according to the invention, i.e. the Example 2 mat having the coating against a smooth surface during drying, had an Ra of 1.2 microns, substantially smoother than the Ra of Example 1, 16 microns. This shows clearly that the Examiner's presumption of the surface smoothness of Jaffee et al is incorrect and lacks any reasonable support. Examples 7 (dried in a conventional manner of being exposed to the hot gases in the oven), i.e. like Jaffee '697 and 8 (dried or partially dried in contact with a smooth surface) also provide evidence that the Examiner's presumption is wrong. The surface of the Example 8 mat made according to the invention had a surface smoothness Ra of 1.08 whereas the mat in Example 7, dried as taught by Jaffee et al, had a much lower surface smoothness, an Ra of 18.2 microns and outside the claimed range. The examples in the specification are of sufficient diversity and scope, coupled with reasonable statements made by the applicant in the specification, as to provide reasonable basis for the scope of the claims. The Examiner urges that the method of making the mat is irrelevant to the patentability of the mat, but where the method of making the mat is part of the evidence showing that the prior art mats would not have a smoothness Ra that is

greater than that of the claimed mat, the method of making the mat must be considered. Evidence pertinent to patentability should always be considered.

The Examiner states that the arguments regarding the Examples and comparative examples are not persuasive because they are not commensurate with the scope of the applied prior art. The evidence does not have to be commensurate with the scope of the applied prior art, this is not a reasonable standard. The comparative examples are representative of the prior art coated mats in the fiber diameter (13 microns) and coating weights, although the claimed coating weights are below, or at the very low end of the coating weights taught by Leclercq, see paragraphs [0063] and [0065], 200-300 with 250 g/sq. m as exemplary. The coating weight in Example 1 of the present specification is about 214 g/sq. meter and in Example 7 the coating weight is about 183 g/sq. meter, the former within the range taught by Leclercq and the latter within the currently claimed range. Nothing in Leclercq teaches that the low end of his coating range produces a rougher surface. Note that the coating weight range in applicant's claimed laminate is about 86 to about 215 g/sq. meter (about 8 to about 20 gms/sq. ft. Applicant's mats can have a lower coating weight and still have a smoother surface than prior art coated mats because of the novel method used to make the claimed coated mats. Applicant believes that the comparative Examples in the specification establish prima facie that the surface of the claimed mats is substantially smoother than that of the coated mats taught by either Jaffeee or Leclercq or any reasonable combination of these disclosures.

Leclercq is cited to show a prior art coating composition for coating fibrous mats intended for use in facing a core of plaster to make a laminate with a mat coating exposed. Leclercq does not disclose the coating method he used to make the coated mats, only that it was a conventional coating process. Therefore, there is no way that applicant could run a trial on a Leclercq coated mat because there are many conventional coating processes and parameters used on each of these processes, but none include the novel coating process of applicant's non-elected invention. Most importantly, Leclercq does not disclose a mat having a coating that was dried in contact with a smooth surface. The very

smooth surfaces on the presently claimed laminates is the result of using applicant's novel coating process.

Leclercq discloses a gloss property, but only after applying two coats of paint to the coated mat on the wall board. Also, Leclercq does not disclose the details of the gloss test or provide a standard test number so it is impossible to determine how he conducted this test. Applicant's surface smoothness test is thoroughly described on page 10, lines 17-28 of the specification. In view of the incomplete disclosure of Leclercq on both the coating process used or the gloss test method, it is unreasonable to presume that the surface smoothness of Leclercq's coated mats is the same as that on the laminates claimed herein.

It is well established that a rejection under 35 USC 102 or 35 USC 103 that is based on alleged inherent properties of a prior art product must be reasonable and have some basis in either the prior art reference or in the common knowledge of one skilled in the art. Here, where applicant has provided Examples that show that That is not present here because Jaffee et al did not teach or suggest that his mats had a surface smoothness within the range claimed in this application. Although the mats of Jaffee et al can be used as facers, Jaffee et al did not teach or suggest that the surface would be as smooth as kraft paper, see the present specification at page 3, lines 8-10. It is also well established that where the applicant has shown with evidence that the inherency urged by the Examiner is not reasonable and not correct, the inherency rejection is overcome. The Examiner's apparent ignoring of the evidence provided by Examples 1 vs 2 and 7 vs 8 seems both unreasonable and in error. The fact that the smooth surface is produced using a novel process does not change or detract from the novelty and nonobviousness of the resultant coated mats of the invention and the novelty and nonobviousness of the claimed laminates containing these coated mats.

Further, Neither Jaffee et al or Leclercq disclose or reasonably suggest the coating compositions recited in claim 26, and claims dependent thereon. Leclercq

teaches using a minimum of 25.5 wt percent clay (85% x .30) and up to 66.5% clay (95% x .7), see paragraphs [0043] and [0051 – 0054].

For at least the reasons set out above, applicant believes that the rejection based on Jaffee et al and Leclercq is unsound under 35 USC 103 and should be reversed.

Respectfully submitted,

Date: August 28, 2007

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Appendix - Claims

List of claims involved in the appeal:

24. A laminate comprising a first layer bonded to a second layer comprising a fibrous mat containing a major portion of non-cellulosic fibers having an average fiber diameter of at least about 10 microns and up to 20 microns, the fibrous mat having a coating on a surface, the coating amounting to about 8 to about 20 grams per square foot, the coating having an exposed surface having a surface smoothness Ra of no greater than about 13 microns, the coating comprising a filler comprising a minor amount of clay, a minor amount of polymeric binder and a major amount of inorganic filler, at least 95 wt. percent of the particles of clay and inorganic filler having a particle size of less than 200 mesh .

26. The laminate of claim 24 wherein the coating comprises about 10 to about 20 wt. percent clay, about 5 to about 15 wt. percent polymeric binder and about 65 to about 85 wt. percent filler.

27. The laminate of claim 26 wherein the coating comprises kaolin clay and limestone, both having a particle size of at least 95 wt. percent minus 325 mesh.

28. The laminate of claim 27 wherein kaolin is present in an amount of about 12 to about 18 wt. percent and limestone is present in an amount of about 70 to about 80 wt. percent and the kaolin particles are in the range of 1-25 microns.

29. The laminate of claim 26 wherein the fibrous mat is a nonwoven mat comprising glass fibers and a cured polymeric binder bonding the fibers together.

30. The laminate of claim 27 wherein the glass fibers have an average diameter of at least about 11 microns.

39. The laminate of claim 26 wherein the exposed surface of the dry coating has an Ra of no greater than about 10 microns.

40. The laminate of claim 24 wherein the exposed surface of the dry coating has an Ra of no greater than about 10 microns.

41. The laminate of claim 24 wherein the first layer is selected from the group consisting of paper, metal foil, plastic, fibrous insulation, foam, concrete, gypsum wallboard, a gypsum containing material, ceramic, glass, metal, perlite board, wood and a wood product.

42. The laminate of claim 27 wherein the first layer is selected from the group consisting of paper, metal foil, plastic, fibrous insulation, foam, concrete, gypsum wallboard, a gypsum containing material, ceramic, glass, metal, perlite board, wood and a wood product.

43. The laminate of claim 26 wherein the first layer is selected from the group consisting of paper, metal foil, plastic, fibrous insulation, foam, concrete, gypsum wallboard, a gypsum containing material, ceramic, glass, metal, perlite board, wood and a wood product.

44. The laminate of claim 28 wherein the first layer is selected from the group consisting of paper, metal foil, plastic, fibrous insulation, foam, concrete, gypsum wallboard, a gypsum containing material, ceramic, glass, metal, perlite board, wood and a wood product.

EVIDENCE (ADDITIONAL) APPENDIX

None

RELATED PROCEEDINGS APPENDIX

NONE